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Building an Entrepreneurship Ecosystem in Higher Education Towards a Strong Entrepreneurial Intention

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ABSTRACT: The design diversity of entrepreneurial education ecosystems (EEE) significantly influences entrepreneurial intention. Further exploration is required to clarify the roles of attitude, subjective norm, and entrepreneurial self-efficacy as antecedents of entrepreneurial intention in various social contexts. This study investigates the role of the Entrepreneurial Education Ecosystem (EEE) in shaping entrepreneurial intention through attitude, subjective norm, and entrepreneurial self-efficacy. The research adopts a one-shot survey design for efficiency purposes, involving 400 students randomly selected using simple random sampling to minimize sampling bias. These participants were drawn from private universities in West Java and Banten. Inferential analysis was conducted using Structural Equation Modeling (SEM) with a covariant approach. The findings reveal that EEE indirectly influences entrepreneurial intention by impacting key mediators, highlighting significant implications for enhancing entrepreneurial education in Indonesia. This research provides new insights into the indirect role of EEE as a mediator through attitude, subjective norm, and entrepreneurial self-efficacy in shaping entrepreneurial intention holistically. By employing an integrative framework, the study combines the Theory of Planned Behavior (TPB) with the concept of the Entrepreneurial Education Ecosystem (EEE).

Keywords: attitude; entrepreneurial self-efficacy; entrepreneurial ecosystem education; higher education; subjective norm.

ABSTRAK: *Keberagaman desain ekosistem pendidikan kewirausahaan (Entrepreneurial Education Ecosystem / EEE) secara signifikan memengaruhi niat berwirausaha. Eksplorasi lebih lanjut diperlukan untuk memperjelas peran sikap, norma subjektif, dan efikasi diri kewirausahaan sebagai faktor pendahulu niat berwirausaha dalam berbagai konteks sosial. Penelitian ini menyelidiki peran EEE dalam membentuk niat berwirausaha melalui sikap, norma subjektif, dan efikasi diri kewirausahaan. Penelitian ini menggunakan desain survei satu kali (one-shot survey design) demi efisiensi, dengan melibatkan 400 mahasiswa yang dipilih secara acak menggunakan metode simple random sampling untuk meminimalkan bias sampel. Para peserta penelitian berasal dari perguruan tinggi swasta di Jawa Barat dan Banten. Analisis inferensial dilakukan dengan menggunakan Structural Equation Modeling (SEM) dengan pendekatan kovarian. Temuan penelitian menunjukkan bahwa EEE secara tidak langsung memengaruhi niat berwirausaha dengan memengaruhi mediator utama, yang memberikan implikasi penting bagi peningkatan pendidikan kewirausahaan di Indonesia. Penelitian ini menawarkan wawasan baru tentang peran tidak langsung EEE sebagai mediator melalui sikap, norma subjektif, dan efikasi diri kewirausahaan dalam membentuk niat berwirausaha secara holistik. Dengan menggunakan kerangka kerja integratif, studi ini menggabungkan Theory of Planned Behavior (TPB) dengan konsep EEE.*

Kata Kunci: *ekosistem pendidikan kewirausahaan; efikasi diri kewirausahaan; norma subjektif; pendidikan tinggi; sikap.*

INTRODUCTION

One of the key economic players in Indonesia is Micro, Small, and Medium Enterprises (MSMEs). MSMEs serve as the backbone of the economy, contributing approximately 60% to the national GDP (Gross domestic product) and providing over 97% of employment opportunities. According to BPS (2024) from February 2024, around 56.56 million people in Indonesia are involved in entrepreneurship, representing 37.86% of the national workforce, which totals 149.38 million people. MSMEs play a vital role in creating jobs and business opportunities, especially for marginalized groups in rural areas, women, and socially disadvantaged communities (Tambunan, 2023). MSMEs not only contribute to GDP but also play a crucial role in driving sustainability. MSMEs play an essential role in promoting sustainability from ecological, socio-cultural, and economic perspectives (Gunawan et al., 2022). However, various challenges hinder MSME development, particularly with the opening of global markets. The limited capacity of MSME entrepreneurs remains a barrier to upgrading their business class and achieving global orientation. Most MSME entrepreneurs have limited educational backgrounds (BPS, 2024). Human resource capacity related to market mastery—local, export, and global markets—also poses significant challenges for MSMEs. The government's policy is to encourage partnerships between universities and MSMEs to drive innovation and skill development. For example, the government supports the Creative Millennial Preneur Goes To Campus seminar (Press Release, Coordinating Ministry for Economic Affairs, Republic of Indonesia, 2024).

To enhance the role of MSMEs in supporting economic growth, adequate support is essential particularly in terms of educated human resources who are ready and capable of entrepreneurship (Setyaningrum, et al., 2023). One effort to support the role of MSMEs in economic growth is fostering entrepreneurial intentions among students. Entrepreneurial education is a key factor in the establishment of new businesses, the cultivation of innovative talents, and scientific and technological innovation (Chang et al., 2022; Liu et al., 2023 ; Liu et al., 2021). Efforts to support entrepreneurship are carried out through the process of entrepreneurial education (Hassan et al., 2020; Hoang et al., 2021).

The educational process can shape personal attitudes, behavioural control, and social norms, as well as influence an individual's decision to start a business (Lavelle, 2021; Su et al., 2021), entrepreneurial education in higher education increases entrepreneurial intention by forming higher attitudes and beliefs (Alyahya et al., 2023; Ashari et al., 2022; Boldureanu et al., 2020; Sampene et al., 2023). The implementation of entrepreneurial education influences attitudes, subjective norms, and self-efficacy, which are important predictors of entrepreneurial intention (Amofah & Saladrigues, 2022; Liu et al., 2021; Wu & Tian, 2022). Similar views have been expressed by (Al-Mamary & Alraja, 2022; Alferaih, 2022; Alshebami et al., 2022).

However, the success of implementing entrepreneurial education in higher education is often doubted in Indonesia. According to BPS data (2023), the majority of students prefer to work rather than become entrepreneurs. This is counterproductive to the goals of entrepreneurial education in higher education.

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A strong entrepreneurial intention needs to be nurtured through the process of entrepreneurial education in higher education institutions.

One of the critical aspects often overlooked is the design of environments that support processes of entrepreneurship in Education (Brush, 2021; Luo et al., 2022; Pascucci et al., 2022). Entrepreneurial Education Ecosystem (EEE) as a recognition of its growing importance in entrepreneurial process in higher education (Liu et al., 2021). EEE enables higher education institutions to integrate entrepreneurial values into university curricula, addressing longstanding challenges. The EEE across different educational institutions may vary in priorities and strategies, with some focusing on curriculum while others emphasize co-curricular activities or outreach (Brush, 2014). Luo et al. (2022) highlight a gap between entrepreneurial education theory and its practical application among students.

EEE can foster the development of a supportive entrepreneurial culture in higher education, which has been lacking so far. Well-integrated entrepreneurial education, emphasizing an ecosystem-wide perspective, will support entrepreneurial education processes (Kim et al., 2020). The success of entrepreneurial education requires the support of the EEE (Gomes et al., 2023; Thai et al., 2023; Wang et al., 2021). EEE encompasses interconnected components designed to support entrepreneurial education across various contexts (Gomes et al., 2023), including universities (Belitski & Heron, 2017). EEE aims to facilitate the creation of academic spin-offs, enhance the employability of students and researchers, improve institutional frameworks for knowledge commercialization, and advance spin-off creation processes (Belitski & Heron, 2017). EEE is considered a key driver of regional economic development and innovation growth. Specifically, EEE include: 1) a subsystem of the broader entrepreneurial ecosystem and 2) includes infrastructure, resources, and means to develop entrepreneurial communities (Liu et al., 2021). Yet, EEE as a central component of the University-Based Entrepreneurship Ecosystem, has not been given adequate attention (Belitski & Heron, 2017; Brush, 2014). There is an inconsistency between the environment, including socio-cultural contexts, and educational institutions in integrating entrepreneurial values to enhance entrepreneurial intention within entrepreneurial education processes (Pascucci et al., 2022). The Entrepreneurial Education Ecosystem (EEE) has not been systematically designed, nor has there been sufficient understanding and identification of best practices that can be universally applied across various institutional contexts, including in higher education (Liu et al., 2023). The EEE in higher education institutions represents a complex system (Wang et al., 2021).

Each higher education institution has different conditions and stages of development in its entrepreneurial education ecosystem, making it challenging to find suitable solutions or relevant examples that can be adapted to sustainably develop or improve entrepreneurial education ecosystems (Fiore et al., 2019; Liu et al., 2021). It is unclear whether entrepreneurial ecosystems are unified entities supporting entrepreneurship across high-growth sectors or if they consist of multiple sub-ecosystems focused on specific sectors (Spigel, 2022).

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The EEE plays a critical role in shaping individual attitudes and entrepreneurial intentions (Kusumojanto et al., 2021). The EEE plays a vital role in the process of student venture creation, along with the importance of developing students' entrepreneurial social networks (Maritz et al., 2021). There is a gap reflecting a mismatch between the real needs within entrepreneurial ecosystems and how entrepreneurial education is implemented and developed (Zhao et al., 2022). There is a need to integrate the EEE framework into higher education processes to foster entrepreneurial intentions and behavior. The role of EEE in shaping entrepreneurial behavior within entrepreneurial education, particularly in Indonesian higher education, remains underexplored.

Entrepreneurial intentions and behavior can be understood from a psychological perspective, as outlined in the Theory of Planned Behavior (TPB).The literature on changes in entrepreneurial attitudes and behaviours within the entrepreneurial education process in higher education can be viewed through the perspective of the Theory of Planned Behaviour (TPB), as evidenced by studies such as Aga (2023); Paray & Kumar (2020); Amalia & Firmialy (2024); Paray & Kumar, 2020). Entrepreneurial intention is influenced by attitudes, subjective norms, and belief control in the entrepreneurial education process (Jena, 2020). TPB helps explain how entrepreneurial education can influence entrepreneurial intention, which is the primary predictor of actual entrepreneurial behaviour in the future (Ashari et al., 2022; Mei et al., 2020). TPB possesses the adequate predictive capability to explain entrepreneurial intention and behaviour within entrepreneurial education (Boubker, 2024; Gera et al., 2024).

However, the explanation of changes in intention and behaviour from the perspective of TPB has also been widely criticized. TPB focuses on internal factors rather than external or situational factors, which cannot be fully predicted (Almeida et al., 2019). TPB places greater emphasis on individual factors, overlooking contextual or external factors that can influence entrepreneurial behaviour, including the environment (Rahman et al., 2024; Sharma et al., 2024). There is inconsistency across various studies that utilize different variables to analyze entrepreneurial intention from the perspective of TPB (Shah et al., 2020). TPB is questioned for its simplicity in explaining behaviour based on its four core concepts (Sniehotta et al., 2014).

Despite the existing criticisms, TPB has strong explanatory power for understanding behavioural changes by integrating an understanding of the role of EEE. TPB is one of the most commonly used theories in entrepreneurial intention research (Adeel et al., 2023; Alakaleek et al., 2023; Chang et al., 2022; Tran et al., 2024). It is an empirically proven model for predicting entrepreneurial behavioural intention, even though it pays little attention to environmental issues as perceived external factors influencing intention and behaviour (Tseng et al., 2022). While TPB is an effective model for predicting behavioural intentions, it has limitations in the context of entrepreneurial education in higher education, particularly in its interaction with EEE.

Although studies such as those by Kusumojanto et al., (2021) have demonstrated the role of the environment in shaping entrepreneurial intentions

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from a TPB perspective, these environments are not specifically focused on the structured design of entrepreneurial education environments. Generally, TPB studies do not reveal how interactions among predictor variables of intention and behaviour relate to EEE. Yet, this knowledge is essential to support the design of EEE aligned with the goals of entrepreneurial education: fostering strong intentions and high levels of entrepreneurial behaviour.

These challenges highlight the urgent need for universities in Indonesia to strengthen the Entrepreneurial Education Ecosystem (EEE) to create a more conducive environment for developing students' entrepreneurial intentions and behaviors. Without improvements in curriculum design, institutional support, MSME integration, and social norms, entrepreneurship education will remain ineffective in producing a new generation of entrepreneurs who can drive MSME growth and economic development.

Based on empirical issues and theoretical gaps, an in-depth study on entrepreneurial intention and behaviour is needed by integrating two approaches: 1) Planned Behaviour Theory to address the gap in understanding changes in students' entrepreneurial intentions during the process of entrepreneurial education in higher education; 2) The Lens of the Entrepreneurial Educational Ecosystem to emphasize the importance of understanding the concepts and dimensions of the entrepreneurial education ecosystem in higher education and its influence on entrepreneurial intention.

The integration of the Theory of Planned Behavior (TPB) with the Entrepreneurial Education Ecosystem (EEE) addresses a theoretical gap where TPB, traditionally focused on individual psychological factors, often falls short in explaining external influences such as entrepreneurial infrastructure, institutional support, and culture—factors highly relevant in the context of Indonesian higher education. Entrepreneurial education is often disconnected from real-world practice, as evidenced by the low success rate of students pursuing entrepreneurial careers despite formal education. Understanding the role of EEE bridges the gap between entrepreneurial education theory and practice, emphasizing that EEE is integral to the psychological processes shaping entrepreneurial intentions and behavior.

This research expands understanding of factors influencing students' entrepreneurial intentions by integrating TPB with the moderating role of a conducive EEE in higher education. It addresses theoretical gaps, enhances knowledge of the interaction between attitudes, subjective norms, and Entrepreneurial Self-Efficacy (ESE), and provides a conceptual foundation for designing entrepreneurial education curricula.

Studying the mediating roles of attitude, subjective norms, and self-efficacy enhances the effectiveness of strategies to strengthen entrepreneurial intentions and behavior. Understanding EEE addresses the gap between theory and practice in Indonesian higher education and helps bridge the divide between entrepreneurial intentions and actual behavior. By addressing these research questions, this study provides a comprehensive understanding of how entrepreneurial education ecosystems shape students’ readiness for

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entrepreneurship. The findings will help universities, policymakers, and educators design more effective interventions to support entrepreneurial development in Indonesia's higher education sector. The research questions are:

RQ1: How does the entrepreneurial ecosystem influence college students' attitudes, subjective norms, and self-efficacy in private higher education institutions?

RQ2: Do attitudes, subjective norms, and self-efficacy mediate the impact of the entrepreneurial ecosystem on the entrepreneurial intentions of college students' in private higher education

RESEARCH METHOD

The research adopts a hypothetic deductive research approach (Bougie & Sekaran, 2019) using a one-shot survey design, well-structured to measure relevant variables accurately. The research population consists of higher education institutions, with units of observation or respondents being lecturers and students randomly selected from universities in West Java and Banten (L2Dikti regions of Banten and West Java). The sample size is 400 students, randomly chosen using Slovin's formula with a confidence level of 95% from the entire population. Random sampling is employed to ensure that every member of the population has an equal chance of being selected, thereby reducing sampling bias. In 2023, the total student population in private higher education institutions under LLDIKTI Region 4 includes both vocational (34,698 registered students) and academic programs (805,909 registered students).

Data were collected through a web-based instrument implemented via online and offline surveys using questionnaires based on variable measurements adapted from experts. The questionnaire items were defined based on concepts using a five-point Likert scale (where one means "strongly disagree" and five means "strongly agree").

EEE is defined as the institutional environment within higher education that fosters entrepreneurial learning and development. The measurement of EEE was developed based on (Wang et al., 2021), encompassing: 1) offering entrepreneurial education subjects and programs covering aspects such as business management, business planning, and other practical skills; 2) Providing opportunities for students to directly experience entrepreneurial activities, for example, through entrepreneurial projects, industrial internships, or simulations; 3) Entrepreneurial research; 4) Entrepreneurial culture; 5) Entrepreneurial infrastructure, including facilities and resources supporting entrepreneurial activities, such as business incubators, innovation centres, and other facilities. The indicators used are highly adequate, showing alignment between the data and the theory, with Goodness of Fit (GOF) values as follows: CMIN/DF = 1.705, GFI = 0.828, CFI = 0.888, PNFI = 0.707, RMSEA = 0.067, and SRMR = 0.48

Attitude toward entrepreneurship individual's personal evaluation of entrepreneurship as a desirable career choice. The measurement of attitude is

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based on Azim & Islam (2022) and consists of 7 statements, including: 1) I enjoy being an entrepreneur; 2) A career as an entrepreneur is appealing to me; 3) I will earn a high income and achieve financial independence by becoming an entrepreneur. Hasil pengujian GOF secara individual yaitu CMIN/DF = 0.671, GFI = 0.995, CFI = 1.00, PNFI = 0.62, RMSEA = 0.003, and SRMR = 0.001.

Subjective Norms Refers to the perceived social pressure to engage in entrepreneurship, including encouragement or discouragement from family, friends, educators, and peers (Al-Mamary & Alraja, 2022). The measurement of subjective norm, according to Al-Mamary & Alraja (2022), is based on statements such as: 1) My family supports my decision to start a business; 2) I am not hesitant to start my own business because many of my friends choose to run their businesses; 3) If there is a small opportunity and limited resources, I would still want to start a business because successful entrepreneurs always do the same; 4) My lecturers support my decision to start a business. The results of the individual GOF test are as follows: CMIN/DF = 0.099, GFI = 1.00, CFI = 1.00, PNFI = 0.628, RMSEA = 0.031, and SRMR = 0.003.

Intrepreneurial Self-Efficacy defined as an individual's confidence in their ability to successfully start and manage a business. The measurement of entrepreneurial self-efficacy is developed based on (X. Liu et al., 2019) and consists of statements such as: 1) I am capable of choosing the right employees and business partners for my own business; 2) I am capable of applying innovative ideas to inspire employees and business partners; 3) I can turn value co-creation into a clear and complete business plan; 4) I can create a clear plan for the future development of the business. The results of the individual GOF test are as follows: CMIN/DF = 2.905, GFI = 0.937, CFI = 0.977, PNFI = 0.78, RMSEA = 0.073, and SRMR = 0.020.

Entrepreneurial Intention Represents the commitment and willingness to start a business in the future. The measurement of entrepreneurial intention, as proposed by Pascucci et al. (2022) and supported by Azim & Islam (2022), consists of 8 items, including: 1) I am ready to do whatever it takes to become an entrepreneur. 2) My career goal is to become an entrepreneur. 3) I will do everything in my power to start and run my own business. 4) I am determined to start a business in the future. 5) My future business embraces social responsibility and environmental awareness. The results of the individual GOF test are as follows: CMIN/DF = 2.105, GFI = 0.983, CFI = 0.994, PNFI = 0.605, RMSEA = 0.053, and SRMR = 0.022.

The instrument used has been tested for its validity and reliability. The validity test results were > 0.50, while the reliability ranged from 0.812 to 0.933. The questionnaire is filled out by data sources based on their experience and sufficient knowledge of the research variables. Respondents' answers use a scale from 1 to 5 (ranging from strongly disagree to strongly agree). Inferential data analysis is performed using the SEM covariance procedure with maximum likelihood estimation (Hair et al., 2019), which involves the following steps: 1) developing the individual variable constructs, 2) designing the overall measurement model, 3) designing for empirical results, 4) validating the

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measurement model, 5) assembling the structural model, and 6) evaluating the structural model's validity, including hypothesis testing.

In the context of research on building an entrepreneurial ecosystem in higher education, the steps for analyzing survey data with a one-shot design. Data collection was conducted simultaneously at a single point in time to efficiently capture the relationships between the research variables. This approach allows for a rapid and measurable evaluation of the impact of the Entrepreneurial Education Ecosystem (EEE) on students' entrepreneurial intentions, without the influence of time-related changes that could affect the results. To reduce bias, the research objectives were explained, ensuring that participants felt comfortable while completing the questionnaire. It was also emphasized that the study had no connection to their coursework or grades.

Inferential analysis was performed using covariance-based Structural Equation Modeling (SEM) according to (Hair et al., 2019) as follows: 1) Data collection through anonymous questionnaires, where the data is solely for research purposes, and respondents do not provide names or addresses that could compromise their comfort; 2) Check the data for missing values and outliers. Test the basic assumptions for SEM analysis, such as normality, linearity, and homoscedasticity; 3) Determine the latent variables (constructs) and their indicators; 4) Create a structural model diagram; 5) Evaluate the model fit using fit indices (Hair et al., 2019); 6) Model Modification; 7) Interpretation of results, both variance and covariance analysis, to assess how latent variables interact and influence one another. Next, test the hypotheses.

RESULT AND DISCUSSION

Results

This study involved 400 students as respondents, randomly selected from the student population at universities in the L2DIKTI region, covering West Java and Banten. The respondents consisted of various demographic backgrounds, including a gender distribution of 61% male and 31% female. The majority of the respondents were aged between 18 and 21 years. The respondents came from various study programs, with prior entrepreneurial experience, such as owning small businesses or involvement in entrepreneurial projects, also varying among them. An overview of the research variables is as follows:

Table 1. Description Statistic

Variable	Mean	Standard Deviation
Entrepreneurial Education Ecosystem	2.6	0.58
Attitude	3.3	0.80
Subjective Norm	2.5	0.72
Entrepreneurial Self-Efficacy	2.4	0.64
Entrepreneurial Intention	3.4	0.69

Source: Data processing (2024)

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The average score for the entrepreneurial education ecosystem is 2.6, which is considered low, indicating that the factors and actors involved are inadequate. The attitude towards entrepreneurship has an average score of 3.3. The average score for subjective norms indicates a low perception of social support and a lack of strong cultural or institutional backing. Entrepreneurial self-efficacy, with an average score of 2.4, shows uncertainty among participants about their entrepreneurial abilities, highlighting an urgent need to boost self-confidence. Entrepreneurial intention scored 3.2, indicating a moderate positive tendency. When faced with the actual choice between an entrepreneurial career working in companies such as state-owned enterprises (BUMN) or becoming a civil servant (ASN), almost all students chose to work.

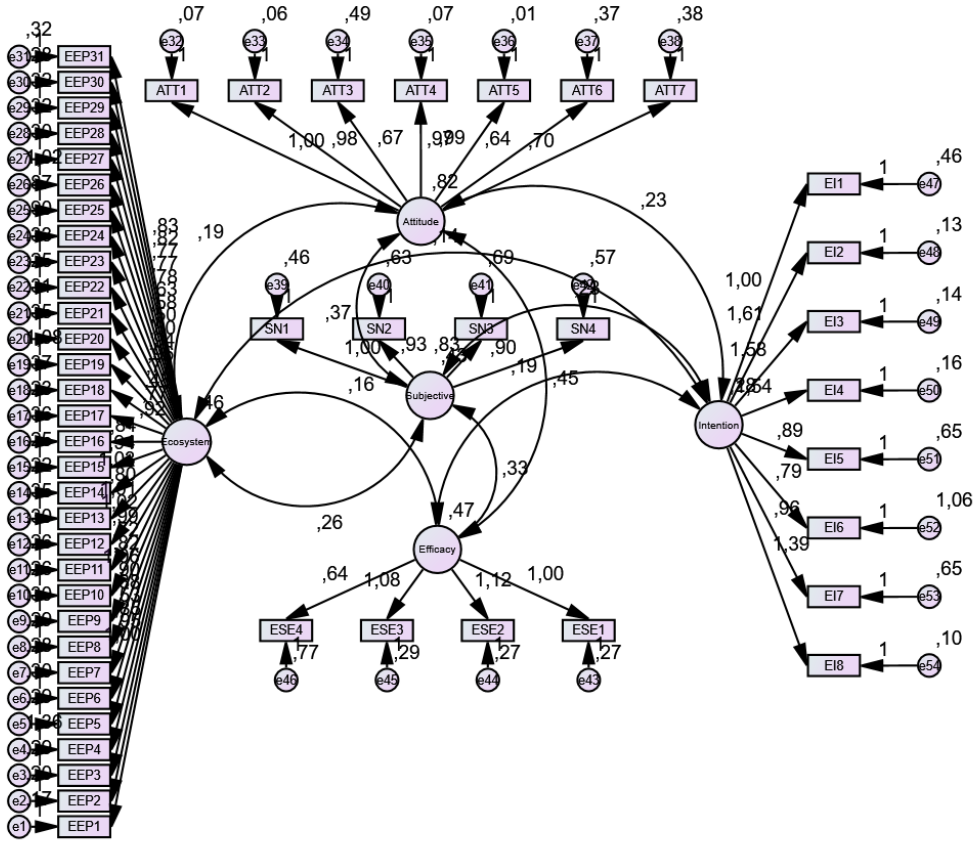

Figure 1. Results of the Standardized regression weight research model test

Based on the path diagram of the results from the Confirmatory Factor Analysis (CFA), evaluation can be performed on the factor weights, Average Variance Extracted (AVE), composite reliability, discriminant validity, and nomological validity. Most of the factor loadings show significant and adequate values (above 0.50), indicating that the indicators contribute strongly to the latent constructs. However, some indicators have low factor loadings, such as ATT2 (0.06), ATT4 (0.01), EI2 (0.13), EI3 (0.14), EI8 (0.10), and others, which do not meet the minimum validity threshold. These indicators may affect the overall validity of the model and should be re-evaluated, either through revision or removal from the model. The AVE values for each construct explain more than 50% of the

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variance in their respective indicators, except for EEE (with an AVE value below 0.50). Composite reliability shows adequate internal consistency of the constructs, with high composite reliability because most of the indicators have significant factor loadings. Improvements and simplifications to the constructs will be made in line with the Goodness of Fit (GOF) value. The results of the nomological validity test indicate that each construct variable has relationships consistent with the theory that forms the basis of the research.

Model refinement was carried out by linking error terms based on the scores in the modification indices table following the CFA test. For example, connecting e52 and e53 resulted in an improved model fit, with an increase of 0.238 (M.I = 31.815 and Par. Change = 0.238). The improvement in fit indices was significant, as indicated by AGFI increasing from 0.742 to 0.927 and GFI increasing from 0.769 to 0.912. These results suggest that the model is both theoretically and empirically capable of explaining the relationships between the research variables. Next, the goodness of fit model testing and model improvement are as follows:

Table 2. Model Test Results

GOF Parameters	Stage First	Correction Result	Cut of Value	Conclusion
Absolute fit measure				
p-value (Sig.)	0.000	0.002	≥ 0,05	Moderate
CMIN	2.424	1.624	≤ 2,00	Fit
GFI (Goodness of Fit)	0.769	0.912	≥ 0,9	Moderate Fit
RMSEA (Root Mean square Error of Approximation)	0. 060	0.012	0.08	Fit
Incremental fit measure				
AGFI (Adjusted Goodness of Fit Index)	0.742	0.927	≥ 0,90	Moderate Fit
CFI (Comparative Fit Index)	0.909	0.966	≥ 0,95	Fit
Incremental Fit Index (IFI)	0.909	0.966	≥ 0,95	Fit
Relative Fit Index (RFI)	0.844	0.972	≥ 0,95	Moderate Fit
Parsimonious fit measure				
PNFI (Parsimonious Normed Fit Index)	0.794	0.810	0.6	Fit
PGFI (Parsimonious Goodness of Fit Index)	0.689	0.721	Near 1	Moderate

Source: Data processing (2024)

According to the test results, it is observed that the goodness of fit criteria, such as absolute fit indices, incremental fit indices, and parsimony indices, have been adequately represented. The field data aligns with the constructs of the research model. Next, hypothesis testing is based on the results of the data analysis, with the findings as follows:

Table 3. Causality Test Results Regression Weight

Path	Unstandardized regression weight	Standardized regression weight	S.E.	C.R.	P	Conclusion

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Attitude	<--	Ecosystem	0.432	0.323	0.06	6,496	***	Significant
Subjective	<--	Ecosystem	0.517	0.568	0.06	8,206	***	Significant
Efficacy	<--	Ecosystem	0.347	0.346	0.06	6,254	***	Significant
Intention	<--	Efficacy	0.114	0.154	0.05	2,249	0.02	Significant
Intention	<--	Subjective	0.367	0.451	0.07	5,059	***	Significant
Intention	<--	Attitude	0.105	0.189	0.03	3,063	0.00	Significant
Intention	<--	Ecosystem	0.029	0.039	0.04	0.646	0.52	Not Significant

Source: Regression weight Data processing (2023)

The relationship between the ecosystem and attitude is significant. This indicates that an improvement in the entrepreneurial education ecosystem positively contributes to entrepreneurial attitude, as evidenced by a Critical Ratio (C.R.) of 6.496 and a P-value of 0.000. The relationship between the ecosystem and subjective norms is also significant. This shows that the entrepreneurial education ecosystem strongly influences subjective norms related to entrepreneurship, with a C.R. of 8.206 and a P-value of 0.000. The relationship between the ecosystem and entrepreneurial self-efficacy is significant, demonstrating that the entrepreneurial education ecosystem has a positive impact on entrepreneurial self-efficacy, as indicated by a C.R. of 6.254 and a P-value of 0.000. The relationship between entrepreneurial self-efficacy and entrepreneurial intention is significant, suggesting that an increase in entrepreneurial self-efficacy contributes to higher entrepreneurial intention, with a C.R. of 2.249 and a P-value of 0.024. The relationship between subjective norms and entrepreneurial intention is significant, indicating that strong subjective norms positively affect entrepreneurial intention, as shown by a C.R. of 5.059 and a P-value of 0.000. The relationship between attitude and entrepreneurial intention is also significant, suggesting that a positive attitude toward entrepreneurship impacts entrepreneurial intention, with a C.R. of 3.063 and a P-value of 0.002. However, the relationship between the ecosystem and entrepreneurial intention is not significant. This indicates that the entrepreneurial education ecosystem does not have a direct, significant impact on entrepreneurial intention in this model, as demonstrated by a C.R. of 0.646 (below the 2.004 threshold for hypothesis acceptance) and a P-value of 0.518 (greater than 0.05). The ecosystem significantly influences attitude, subjective norms, and entrepreneurial self-efficacy, which, in turn, affect entrepreneurial intention. However, the direct impact of the ecosystem on entrepreneurial intention is not significant. The next step is to test the mediating variables as can be seen in the following table:

Table 4. Causality test results regression weight

Path					Estimate	Z score	Conclusion
Intention	<-	Attitude	<-	Ecosystem	0.161	2.729	Significant
Intention	<-	Subjective	<-	Ecosystem	0.133	8.206	Significant
Intention	<-	Efficacy	<-	Ecosystem	0.077	2.114	Significant

Source: Results of data processing using SEM 2024

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The entrepreneurship education ecosystem has a significant effect on attitude, subjective norms, entrepreneurial self-efficacy, which ultimately affects entrepreneurial intention. The lower Z score value compared to other paths indicates a smaller but still significant effect (Z score value> 2.004). The next step is to test the Hypothesis

Table 5. Causality test results regression weight

Hypothesis	Estimate	Conclusion of Hypothesis Testing
H1a: Entrepreneurship education ecosystem has an influences attitude	0.323	Significant
H1b: Entrepreneurship education ecosystem has an influence on subjective norms	0.568	Significant
H1c: Entrepreneurship education ecosystem has an influence on entrepreneurial self-efficacy	0.346	Significant
H2a: Entrepreneurship education ecosystem has an influence on entrepreneurial intentions through attitudes.	0.161	Significant
H2b: Entrepreneurship education ecosystem has an influence on entrepreneurial intentions through subjective norms	0.133	Significant
H2c: Entrepreneurship education ecosystem has an influence on entrepreneurial intention through entrepreneurial self-efficacy.	0.077	Significant

Source: *Data processing results Standardized regression weight 2023*

The results of the study indicate that the hypothesis is supported. EEE has a significant influence both directly and indirectly on entrepreneurial intentions through attitudes, subjective norms, and entrepreneurial self-efficacy.

Discussion

The results of this study highlight the importance of the Entrepreneurial Education Ecosystem (EEE) in explaining changes in entrepreneurial intention, both directly and through attitude, subjective norm, and entrepreneurial self-efficacy. Changes in attitude, subjective norms, and entrepreneurial self-efficacy are influenced by the EEE. This aligns with the work of (Brush, 2014; Kim et al., 2020; Spigel, 2022; Belitski & Heron, 2017; Wang et al., 2021; Gomes et al., 2023), who emphasize the importance of EEE design in supporting the entrepreneurship education process.

Various social contexts influence entrepreneurial intention outputs. Designing an appropriate environment enhances the effectiveness of antecedents to entrepreneurial intention, such as attitude, subjective norm, and entrepreneurial self-efficacy. The limitations of the Theory of Planned Behaviour (TPB) in predicting entrepreneurial intention lie in the diversity of social contexts where interactions between individuals and their environments vary greatly. This

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research enhances the understanding of the importance of environmental design (EEE) in supporting the delivery of entrepreneurship education. The study results show that EEE influences attitude, subjective norm, and entrepreneurial self-efficacy, which ultimately explain changes in entrepreneurial intention consistently. However, EEE also has the potential to influence changes in entrepreneurial intention among students.

The Entrepreneurial Education Ecosystem (EEE), as stated by Belitski & Heron (2017), is still underdeveloped theoretically and remains fragmented, including variations and diversity in EEE design. However, in general, the function of EEE remains consistent about entrepreneurial intention. The focus of EEE is the connectivity of stakeholders within the university-industry-government collaboration framework, including the social environment. Brush (2014) emphasizes the interaction between factors and actors in the ecosystem that are interconnected, making it unique. This study provides a different perspective from previous studies. EEE has the strongest influence on Subjective Norm (SN), and SN can mediate the effect of EEE on entrepreneurial intention. Indonesia is one of the countries with a high collective culture. There are various important dimensions in EEE. This study places more emphasis on the cultural aspect of EEE, which represents symbolic aspects, norms, values, and institutional traditions, influencing the environment and guiding behaviour and communication. In the Indonesian context, where the culture is highly collective, the cultural dimension is closely related to subjective norms. As stated in the Theory of Planned Behaviour (TPB) by (Ajzen, 1991), the subjective norm, as discussed by Alshebami (2022); Alferaih (2022); Al-Mamary & Alraja (2022), is the individual's perception of social expectations, including the norms that involve the views of parents, friends, or other influential figures regarding the approval or disapproval of entrepreneurship.

Subjective norm is formed through the social interaction process between an individual and their cultural environment. Therefore, the design of EEE should be based on a deep understanding of subjective norms and the cultural characteristics shaped within the university environment, considering the collectivist understanding and the values that need to be developed to foster an entrepreneurial culture. As Liu et al. (2021) suggested regarding the domains of EEE in higher education, such as the entrepreneurship curriculum, entrepreneurial activities and practices, organizational structure, core faculty, and operating mechanisms to support the entrepreneurship education process, it is essential to not overlook individual perceptions regarding social views or pressures when considering entrepreneurship as a career choice. Graduates of higher education institutions are often pressured to pursue employment rather than entrepreneurship, whether by family members, their environment, or the attractiveness of corporate recruitment systems, especially for fresh graduates. The design of EEE should guide career choices in universities toward entrepreneurship, based on various considerations such as the support of entrepreneurship for the economic system (Bubnovskaia et al., 2024; Gomes & Lopes, 2023; Ordeñana et al., 2024; Sagar et al., 2023). Entrepreneurship supports

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economic growth (Setyaningrum, Norisanti, et al., 2023) and contributes to sustainability through entrepreneurial endeavours. Entrepreneurship is the backbone of Indonesia's economy.

Attitude, subjective norm, and entrepreneurial self-efficacy (ESE) have a significant impact on entrepreneurial intention, as confirmed by Alferaih (2022); Al-Mamary & Alraja (2022). These three factors are interconnected and form the core focus in the design of the Entrepreneurial Education Ecosystem (EEE). The entrepreneurial education ecosystem in higher education can influence entrepreneurial intention through various psychological and social factors. The interaction between individuals and their social environment, designed as part of the EEE, enhances entrepreneurial intention. EEE can improve factors related to entrepreneurial intention and readiness to start a business. This aligns with previous studies on the role of EEE in the entrepreneurial education process in higher education. Effective strategies for developing EEE, based on these findings, can enhance the success of entrepreneurship programs in universities. A well-designed environment influences behaviour and strengthens the consistency of the effects of attitude, subjective norm, and entrepreneurial self-efficacy on entrepreneurial intention. The focus lies in understanding how individuals interact with their environment, emphasizing structured efforts in delivering entrepreneurial education programs to ensure that entrepreneurial intentions remain strong. This study is consistent with previous research that shows the influence of EEE on attitude, subjective norm, and entrepreneurial self-efficacy. This highlights the importance of fostering environments that promote the development of these factors to sustain entrepreneurial motivation among students

Unlike previous studies, this research offers an integrative framework by combining the Theory of Planned Behavior (TPB) with the Entrepreneurial Education Ecosystem (EEE), an approach that remains underexplored in the context of entrepreneurial education in Indonesia. This study extends the application of TPB by incorporating environmental factors represented by EEE, providing a more holistic understanding of the factors influencing entrepreneurial intention within the framework of entrepreneurship education in higher education institutions.

The findings broaden insights into the role of EEE as an indirect mediator through attitude, subjective norms, and entrepreneurial self-efficacy—key dimensions in shaping entrepreneurial intention..

CONCLUSION

The study highlights the critical role of the Entrepreneurial Education Ecosystem (EEE) in indirectly influencing entrepreneurial intention through attitude, subjective norms, and entrepreneurial self-efficacy. The key findings demonstrate that EEE significantly impacts these three factors, which, in turn, serve as primary mediators in shaping students' entrepreneurial intentions. A well-structured educational ecosystem designed to foster student engagement in entrepreneurship is particularly vital in the context of Indonesian higher

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education. This research contributes to theoretical development by integrating the Theory of Planned Behavior (TPB) with EEE into a comprehensive framework, offering a holistic understanding of how individual and environmental factors jointly influence entrepreneurial intention. Additionally, the study enriches the literature by introducing an environment-based approach relevant to Indonesia's collectivist cultural context, where social norms play a dominant role.

Theoretical Implications: The integration of the Theory of Planned Behaviour (TPB) and the Entrepreneurial Education Ecosystem (EEE) theory can comprehensively explain changes in entrepreneurial behaviour. The interaction between entrepreneurial intention and EEE strengthens entrepreneurial behaviour in the context of higher education. This study strengthens the TPB model by demonstrating how attitude, subjective norm, and entrepreneurial self-efficacy (ESE) play a central role in shaping entrepreneurial intention and behaviour in higher education during the entrepreneurship education process. The research contributes to the EEE literature by highlighting how the design of an entrepreneurial ecosystem can enhance the effectiveness of the antecedents of entrepreneurial intention, transforming them into actual entrepreneurial behaviour.

Practical Implications: The findings of this research will provide valuable insights for the design of entrepreneurship education curricula, ensuring that they align with the specific needs of Indonesia's entrepreneurial ecosystem. By closely examining the local economic landscape and identifying key challenges and opportunities, higher education institutions, especially private universities, can tailor their programs to effectively prepare graduates who are not only knowledgeable but also capable of driving innovation and fostering economic growth.These insights will allow universities to focus on developing practical skills, such as problem-solving, creative thinking, and resilience, which are essential for entrepreneurial success in emerging economies like Indonesia. The curriculum can be shaped to emphasize local industries, market trends, and regional challenges, giving students a deeper understanding of how to create businesses that directly address these needs. Furthermore, by embedding experiential learning opportunities such as internships, start-up incubators, and mentorship programs, universities can enhance students' readiness to engage with the local economy and contribute to its development. The curriculum will also encourage the formation of entrepreneurial networks and partnerships, which are vital for the growth of startups and small businesses.

Practical recommendations for policymakers in higher education include focusing on the development of entrepreneurship education curricula that emphasize fostering an entrepreneurial culture as a critical component of the Entrepreneurial Education Ecosystem (EEE). Universities should establish a supportive culture for entrepreneurship through mentorship programs, business incubators, and activities that provide students with practical entrepreneurial experiences.Higher education institutions are encouraged to offer facilities such as innovation and business centers and to collaborate with local industries to enhance students' learning experiences. Furthermore, universities should expand

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the involvement of families, communities, and the academic environment to strengthen subjective norms that support entrepreneurship. This study serves as a foundation for designing entrepreneurial education ecosystems that are more effective, relevant, and contextual to the needs of Indonesian society and the economy. By doing so, it reinforces the role of students as drivers of innovation and contributors to national economic development.

Limitations for Future Research

To address the limitations of the Theory of Planned Behaviour (TPB) in measuring changes in entrepreneurial intention and behaviour, future research can adopt a longitudinal approach. Entrepreneurial intention is dynamic and evolves, so it is essential to explore how factors within the educational ecosystem contribute to these changes. Future studies could also integrate contextual variables, such as government policies, entrepreneurial infrastructure, and institutional culture, into the TPB model. This approach would provide a more comprehensive understanding of the role of the educational ecosystem in supporting the development of entrepreneurial intention and action. A mixed-methods approach, combining quantitative surveys with in-depth interviews or qualitative case studies, could offer deeper insights into students' experiences in developing entrepreneurial intention and facing real-world challenges. Additionally, future research could develop more complex models by considering the interactions between variables such as self-efficacy, social support, and environmental factors. For example, a complexity theory-based approach could be used to capture the dynamics of interactions between actors and factors within the entrepreneurial education ecosystem.

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